

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/588,470

Examiner: Melody M. Burch

Applicant(s): Barrie D. Brewster

Art Unit: 3657

Title: VIBRATION DAMPER

Confirmation No.: 8791

Filed: May 17, 2007

Atty. Docket No.: M04B107

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Dear Sir/Madam:

Applicant appeals the final office action of June 2, 2011, which rejects claims 1-5, 7, 8, 10-27, 29, and 32-38 and objects to claims 28, and 30. Specifically, independent claim 1 is rejected under 35 USC 103(a) as being unpatentable over Admitted Prior Art, figure 1 of the present application, (hereinafter referred to as "APA") in view of US Patent No. 2,695,167 to Ramos et al. (hereinafter referred to as "Ramos"). Independent claim 18 is rejected under 35 USC 103(a) as being unpatentable over APA in view of Ramos and US Patent No. 2,578,773 to Arthur (hereinafter referred to as "Arthur"). Applicant respectfully requests a three-month extension of time under 37 CFR 1.136(a).

**BACKGROUND**

The invention as described by independent claim 1 is directed to a vibration damper (*e.g.*, FIG. 3) for inhibiting transfer of vibration to an apparatus during the evacuation thereof by a pump, the damper comprising a bellows arrangement (*e.g.*, numeral 13 in FIG. 3) for isolating from the ambient atmosphere, fluid drawn from the apparatus by the pump, and means for limiting axial compression of the bellows arrangement (*e.g.*, support members 21 and 22 and springs 23 in FIG. 3) during use of the damper, wherein the damper is axially pre-compressed by means for limiting axial

extension of the bellows arrangement (*e.g.*, straps 14 and 15 in FIG. 4), but simultaneously permitting axial compression of the same.

Like claim 1, independent claim 18 also includes the limitation “the damper is axially pre-compressed by means for limiting axial extension of the bellows arrangement.” The following arguments submitted by Applicant based on such limitation will be applied to both claims 1 and 18.

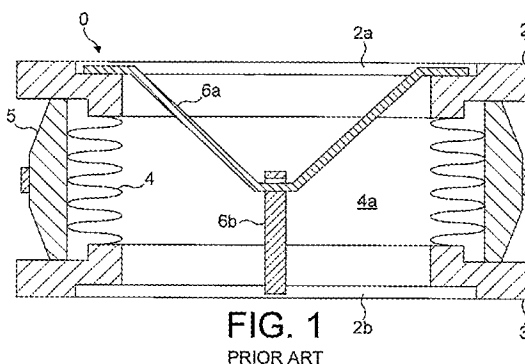
## ISSUES

Whether Examiner errs in asserting that APA does not teach away from “the damper is axially pre-compressed.”

## DISCUSSION

***1. Examiner asserts that it would have been obvious for a person skilled in the art to modify APA by pre-compressing the bellows arrangement.***

With reference to FIG. 1 of the present application, APA teaches a damper 0 having top flange 2 and bottom flange 3 connected by bellows arrangement 4. Mechanical support 5 made of an elastomeric material is provided to prevent flanges 2 and 3 from collapsing toward each other under a compressive force. Straps 6a and 6b are engaged with flanges 2 and 3, respectively, for limiting axial extension of bellows arrangement 4. Straps 6a and 6b are engaged with each other in such a manner that mechanical support 5 is not pre-compressed before the damper 0 is attached to a process chamber at one end and a vacuum pump at the other.



Examiner acknowledges “APA is silent with regards to the damper being axially precompressed by the means for limiting axial extension of the bellows arrangement,” but provides “Ramos et al. teach in figure 1 and in col. 2 lines 2-6 an arrangement 6 being axially precompressed by a means for limiting axial extension 2, 28, 36.” *See, the Final Office Action, page 3, lines 19-22.* Examiner asserts “it would have been obvious to one

of ordinary skill in the art at the time the invention was made to have modified the means for limiting axial extension of the bellows arrangement to provide precompression of the bellows arrangement, in view of the teaching of Ramos et al., in order to provide a means of achieving a certain level of stiffness depending on the particular application.” *See, the Final Office Action, page 3 line 23 – page 4 line 2.*

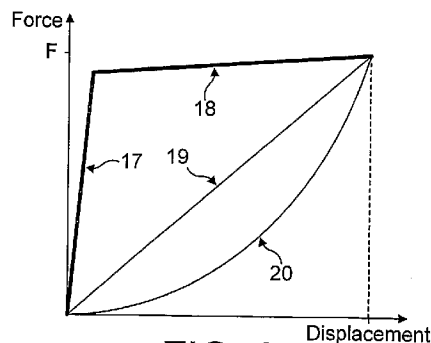
**2. Applicant respectfully disagrees with Examiner’s assertion, because APA teaches away from pre-compressing the bellows arrangement.**

APA teaches away from pre-compressing the bellows arrangement. APA teaches “known elastomeric mechanical supports 5 typically experience failure in a buckling mode.” *See, the specification, page 2, lines 20-21.* Since pre-compression of the bellows arrangement would increase the likelihood for the elastomeric mechanical support 5 to buckle, APA discourages modifying the damper by pre-compressing the bellows arrangement.

Examiner asserts “the fact that support 5 is susceptible to failure in buckling mode does not change the fact that APA’s support 5 is a compression limiting device that undergoes compression to help prevent the bellows from collapsing under compressive loads.” *See, the Advisory Action.* However, the mere fact that a prior art reference can be modified does not render the modification obvious unless the prior art also suggests the desirability of the modification. *In re Mills, 916 F.2d 680 (Fed. Cir. 1990).* The fact that mechanical support 5 is a compression limiting device does not by itself suggest the desirability of pre-compression of the same.

Further evidence of teaching away is shown by FIG. 6 of the present application. The elastomeric material forming mechanical support 5 has a progressive stiffness characteristic represented by curve 20 in FIG.

6. *See, the specification, page 3, lines 9-11.* “It is desired that the stiffness characteristic associated with the damper, when loaded, is small by design... such that transmission of vibration to the apparatus is minimised.” *See, the specification, page 3, lines 13-15.* Pre-compressing mechanical support 5 would



**FIG. 6**

progressively increase its stiffness, thereby worsening the transmission of vibration from one end of the damper to the other. Since the transmission of vibration is not desired, APA teaches away from pre-compression of bellows arrangement 4 by pre-compressing mechanical support 5.

A prima facie case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465 (Fed. Cir. 1997). For the reasons discussed above, it is Applicant's contention that APA teaches away from pre-compressing the bellows arrangement. Thus, Applicant respectfully submits that it would not have been obvious for a person skilled in the art to modify APA by pre-compressing the bellows arrangement or combining APA with any other references to reach such modification.

### **3. Conclusion**

For the reasons discussed above, Applicant respectfully submits that claim 1 is patentable over APA and Ramos under 35 USC 103(a). Accordingly, independent claim 18 and other dependent claims are also patentable over the cited prior art references based on the foregoing discussions. As such, Applicant respectfully requests that the rejections and objections against all the pending claims be withdrawn.

Respectfully submitted,

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